

IN THE CLAIMS:

Please amend the claims as follows, substituting any amended claims(s) for the corresponding pending claim(s):

1 1. (amended) A block decision feedback equalizer for channel equalization
2 *a* comprising:
3 a forward filter receiving and concurrently processing blocks containing a
4 predetermined number of input samples;
5 a feedback filter receiving and concurrently processing blocks containing
6 the predetermined number of demapped equalized output samples; and
7 a signal adder combining filtered input samples for a current block from
8 the forward filter and filtered output samples for the current block from the feedback
9 filter to produce equalized output samples for the current block.

1 2. (unchanged) The block decision feedback equalizer as set forth in Claim 1
2 wherein the signal adder receives intra-block time varying output correction coefficients
3 for both the forward and feedback filters for addition to the filtered input samples and the
4 filtered output samples in producing the equalized samples.

1 3. (unchanged) The block decision feedback equalizer as set forth in Claim 1
2 wherein the signal adder receives only intra-block time varying output correction
3 coefficients for the forward filter and not intra-block time varying output correction
4 coefficients for the feedback filter for addition to the filtered input samples and the
5 filtered output samples in producing the equalized samples.

1 4. (unchanged) The block decision feedback equalizer as set forth in Claim 3
2 wherein the signal adder receives the intra-block time varying output correction
3 coefficients for the forward filter only when an error measurement for the current block
4 exceeds a threshold.

1 5. (unchanged) The block decision feedback equalizer as set forth in Claim 3
2 wherein filter coefficients utilized to produce the intra-block time varying output
3 correction coefficients are computed at a rate lower than a rate at which input samples are
4 received.

1 6. (unchanged) The block decision feedback equalizer as set forth in Claim 1
2 wherein the signal adder receives neither intra-block time varying output correction
3 coefficients for the forward filter nor intra-block time varying output correction
4 coefficients for the feedback filter for addition to the filtered input samples and the
5 filtered output samples in producing the equalized samples.

1 7. (unchanged) The block decision feedback equalizer as set forth in Claim 1
2 further comprising:

3 a forward error computation unit receiving the input samples to compute
4 an inverse channel estimate and an error vector and producing an output correction vector
5 for the forward filter; and

6 a feedback error computation unit receiving the demapped equalized
7 output samples to compute the inverse channel estimate and the error vector and
8 producing an output correction vector for the feedback filter.

1 8. (unchanged) A receiver comprising:

2 an input for receiving an input signal;

3 a channel decoder for decoding the input signals; and

4 a block decision feedback equalizer within the channel decoder for
5 channel equalization comprising:

6 a forward filter receiving and concurrently processing blocks
7 containing a predetermined number of input samples from the input signal;

8 a feedback filter receiving and concurrently processing blocks
9 containing the predetermined number of demapped equalized output samples; and

10 a signal adder combining filtered input samples for a current block
11 from the forward filter and filtered output samples for the current block from the
12 feedback filter to produce equalized output samples for the current block.

1 9. (unchanged) The receiver as set forth in Claim 8 wherein the signal adder
2 receives intra-block time varying output correction coefficients for both the forward and
3 feedback filters for addition to the filtered input samples and the filtered output samples
4 in producing the equalized samples.

1 10. (unchanged) The receiver as set forth in Claim 8 wherein the signal adder
2 receives only intra-block time varying output correction coefficients for the forward filter
3 and not intra-block time varying output correction coefficients for the feedback filter for
4 addition to the filtered input samples and the filtered output samples in producing the
5 equalized samples.

1 11. (unchanged) The receiver as set forth in Claim 10 wherein the signal adder
2 receives the intra-block time varying output correction coefficients for the forward filter
3 only when an error measurement for the current block exceeds a threshold.

1 12. (unchanged) The receiver as set forth in Claim 10 wherein filter coefficients
2 utilized to produce the intra-block time varying output correction coefficients are
3 computed for the forward filter at a rate lower than a rate at which input samples are
4 received.

1 13. (unchanged) The receiver as set forth in Claim 8 wherein the signal adder
2 receives neither intra-block time varying output correction coefficients for the forward
3 filter nor intra-block time varying output correction coefficients for the feedback filter for
4 addition to the filtered input samples and the filtered output samples in producing the
5 equalized samples.

1 14. (unchanged) The receiver as set forth in Claim 8 wherein the block decision
2 feedback equalizer further comprises:

3 a forward error computation unit receiving the input samples to compute
4 an inverse channel estimate and an error vector and producing an output correction vector
5 for the forward filter; and

6 a feedback error computation unit receiving the demapped equalized
7 output samples to compute the inverse channel estimate and the error vector and
8 producing an output correction vector for the feedback filter.

1 15. (amended) A method of block channel equalization comprising:

2 *az* receiving and concurrently processing blocks containing a predetermined
3 number of input samples within a forward filter;
4 receiving and concurrently processing blocks containing the
5 predetermined number of demapped equalized output samples within a feedback filter;
6 and
7 combining filtered input samples for a current block from the forward
8 filter and filtered output samples for the current block from the feedback filter within a
9 signal adder to produce equalized output samples for the current block.

1 16. (unchanged) The method as set forth in Claim 15 further comprising:

2 receiving intra-block time varying output correction coefficients for both
3 the forward and feedback filters within the signal adder for addition to the filtered input
4 samples and the filtered output samples in producing the equalized samples.

1 17. (unchanged) The method as set forth in Claim 15 further comprising:

2 receiving only intra-block time varying output correction coefficients for
3 the forward filter within the signal adder and not intra-block time varying output
4 correction coefficients for the feedback filter for addition to the filtered input samples and
5 the filtered output samples in producing the equalized samples.

1 18. (unchanged) The method as set forth in Claim 17 wherein the step of
2 receiving only intra-block time varying output correction coefficients for the forward
3 filter within the signal adder and not intra-block time varying output correction
4 coefficients for the feedback filter for addition to the filtered input samples and the
5 filtered output samples in producing the equalized samples further comprises:

6 receiving the intra-block time varying output correction coefficients for
7 the forward filter only when an error measurement for the current block exceeds a
8 threshold.

1 19. (unchanged) The method as set forth in Claim 17 wherein the step of
2 receiving only intra-block time varying output correction coefficients for the forward
3 filter within the signal adder and not intra-block time varying output correction
4 coefficients for the feedback filter for addition to the filtered input samples and the
5 filtered output samples in producing the equalized samples further comprises:

6 computing filter coefficients utilized to produce the intra-block time
7 varying output correction coefficients for the forward filter at a rate lower than a rate at
8 which the filtered input samples are received.

1 20. (unchanged) The method as set forth in Claim 15 further comprising:

2 receiving neither intra-block time varying output correction coefficients

3 for the forward filter nor intra-block time varying output correction coefficients for the

4 feedback filter within the signal adder for addition to the filtered input samples and the

5 filtered output samples in producing the equalized samples.